
FINAL

Office of River Protection

Tri-Party Agreement

Monthly Report

July 2016



Office of River Protection (ORP)
Tri-Party Agreement (TPA) Milestone Review
Project Earned Value Management System reflects May 2016 information

Page	Topic	Leads
2	Administrative Items/Milestone Status	Bryan Trimberger/Dan McDonald/Jeff Lyon
4	System Plan	Kaylin Burnett/Jeff Lyon/Dan McDonald
5	Acquisition of New Facilities	Janet Diediker/Jeff Lyon/Dan McDonald
5	Supplemental Treatment and Part B Permit Applications	Steve Pfaff/Jeff Lyon/Dan McDonald
7	242-A Evaporator Status	Paul Hernandez/Jeff Lyon
8	Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	Richard Valle/ Stephanie Schleif
9	Tank System Update	Dusty Stewart /Jeff Lyon
9	Single-Shell Tank Integrity Assurance	Dusty Stewart / Jim Alzheimer
10	In Tank Characterization and Summary	Dusty Stewart/Michael Barnes
13	Tank Operations Contract Overview	ORP TPA Program Managers/Jeff Lyon
23	Single-Shell Tank Closure Program	Ryan Beach/Jeff Lyon
25	Single-Shell Tank Retrieval Program	Chris Kemp/Jeff Lyon
27	Tank Waste Retrieval Work Plan Status	Chris Kemp/Jeff Lyon
CD	Waste Treatment and Immobilization Plant (WTP) Overall TPA Summary and Milestone Status; see the U.S. Department of Energy, Office of River Protection Consent Decree 08-5085-FVS Monthly Report for WTP Facility-specific information	Joni Grindstaff/Dan McDonald

Administrative Items/Milestone Status
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Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2015				
M-062-45-T01	Comp. Neg's 6-Mo After Last Issuance of System Plan	04/30/2015		In Dispute
M-062-45-ZZ	Negotiate a One Time Supplemental Treatment Selection	04/30/2015		In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 Thru M-062-34-T01 to Interim Milestones	04/30/2015		In Dispute
M-045-82	Submit Comp. Permit Modification Request for Tiers 1,2,3	09/30/2015		In Dispute
M-045-91E1	Provide SST Farms Dome Deflection Surveys Every Two Years.	09/30/2015	9/21/15	Complete
Fiscal Year 2016				
M-062-01AF	Submit Semi-Annual Project Compliance Report	01/31/2016	01/29/2016	Complete
M-047-07	CD-1 for Secondary Liquid Waste Treatment and CR for CD-2 to Ecology	03/31/2016		In Dispute
M-090-13	CD-1 for Interim Hanford Storage Project and CR for CD-2 to Ecology	03/31/2016		In Dispute
M-062-31-T01	Comp. Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016		In Dispute
M-062-01AG	Submit Semi-Annual Project Compliance Report	07/31/2016		On Schedule
M-045-56L	Ecology And DOE Agree, At A Minimum, To Meet Yearly (By July)	07/31/2016		On Schedule
Fiscal Year 2017				
M-062-40E	Select a Minimum of Three Scenario's	10/31/2016		On Schedule
M-045-61A	Submit to Ecology a primary doc. Phase 2 CMS and Rev. O update to the RFI Report for WMA-C	12/31/2016		On Schedule
M-045-62	Phase 2 Corrective Measures Implementation Work Plan For WMA-C	Six months after CMS approval (M-045-61A)		On Schedule
M-045-84	Comp Neg's of HFFACO Interim Milestones for Closure of 2 nd SST WMA	01/31/2017		At Risk
M-062-01AH	Submit Semi-Annual Project Compliance Report	01/31/2017		On Schedule
M-062-01AI	Submit Semi-Annual Project Compliance Report	07/31/2017		On Schedule
M-045-91E2	Provide SST Farms Dome Deflection Surveys' Every Two Years	09/30/2017		On Schedule

Milestone	Title	Due Date	Completion Date	Status
M-045-92	DOE and Ecology will agree on locations for Barriers 3 and 4	09/30/2017		On Schedule*
* Per Change Number M-45-16-04 signed on July 1, 2016				

CD-1/-2 = critical decision-1/-2.
 CMD = current measuring device.
 CMS = current measures study.
 CR = change request.
 DOE = U.S. Department of Energy.
 Ecology = Washington State Department of Ecology.
 HFFACO = *Hanford Federal Facility Agreement and Consent Order.*

RCRA = *Resource Conservation and Recovery Act.*
 RFI = RCRA Facility Investigation.
 SST = single-shell tank.
 TBD = to be determined.
 WTP = Waste Treatment and Immobilization Plant.
 WMA = Waste Management Area.

System Plan

Significant Past Accomplishments:

- System Plan, Rev. 8 scenario selection discussions to support M-062-40E started between U.S. Department of Energy (DOE), Office of River Protection (ORP) and Washington State Department of Ecology (Ecology) on April 25, 2016.
- Both ORP and Ecology presented scenarios for consideration with an initial prioritization of all scenarios on June 27, 2016.

Significant Planned Actions in the Next Six Months:

- Scenario selection discussions will be conducted to support M-062-40E, Due: October 31, 2016
- Submittal of a change request form to align the logic of the evaluation of milestone dates within M-062-45 to System Plan, Rev. 8 to assist in dispute resolution of M-062-45-T01.

Issues: None.

Acquisition of New Facilities

M-090-13, Submit Critical Decision-1 for Interim Hanford Storage Project and TPA Change Request for CD-2 to Ecology, Due: March 31, 2016, Status: In dispute. Change control form M-90-15-01 was submitted by ORP to Ecology for approval on December 30, 2015. This dispute has been extended to August 1, 2016. To be informed by System Plan Revision 8 and to be negotiated within six months of System Plan Revision 8 issuance in accordance with milestone M-062-45.

M-090-00, Acquire/Modify Facilities for Storage of Immobilized High-Level Waste (IHLW), Due: December 31, 2019, Status: At Risk – To be informed by System Plan Revision 8 and to be negotiated within six months of System Plan Revision 8 issuance in accordance with milestone M-062-45.

M-047-07, Submit CD-1 for Secondary Liquid Waste Treatment and Change Request (CR) for CD-2 to Ecology, Due: March 31, 2016, Status: In dispute. Change control form M-47-15-01 was submitted by ORP to Ecology for approval on December 30, 2015. This dispute has been extended to August 1, 2016. To be informed by System Plan Revision 8 and to be negotiated within six months of System Plan Revision 8 issuance in accordance with milestone M-062-45.

M-047-00, Complete Work Necessary to Provide Facilities for Management of Secondary Waste from the Waste Treatment and Immobilization Plant (WTP), Due: December 31, 2022, Status: At Risk – To be informed by System Plan Revision 8 and to be negotiated within six months of System Plan Revision 8 issuance in accordance with milestone M-062-45.

Significant Past Accomplishments: None.

Significant Planned Actions in the Next Six Months: None.

Issues: None.

Supplemental Treatment and Part B Permit Applications

M-062-45-ZZ (designation for M-062-45 item 3), Negotiate a one-time supplemental treatment selection, Due: April 30, 2015, Status: In dispute.

M-062-45-ZZ-A, Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones, Due: April 30, 2015, Status: In dispute.

M-062-31-T01, Complete final design and submit Resource Conservation and Recovery Act Part B permit modification request, Due: April 30, 2016, Status: In dispute.

M-062-32-T01, Start construction of supplemental vitrification treatment facility and/or WTP enhancements, Due: April 30, 2018, Status: In dispute.

M-062-33-T01, Complete construction of supplemental vitrification treatment facility and/or WTP enhancements, Due: April 30, 2021, Status: In dispute.

M-062-45-T01, Every six years, within six months after last revision of the System Plan, negotiate tank waste retrieval sequencing, Due: April 30, 2015, Status: In dispute.

M-062-45-XX, No later than December 31, 2021, the DOE and Ecology shall complete negotiations to establish a mechanism that will apply to resolve future disputes regarding the determinations in M-062-45, paragraphs 4 and 5, Due: December 31, 2021, Status: On schedule.

M-062-34-T01, Complete hot commissioning of supplemental vitrification treatment facility and/or WTP enhancements, Due: December 30, 2022, Status: In dispute.

M-062-21, Annually submit data that demonstrates operation of the WTP, Due: February 28, 2023, Status: On schedule.

M-062-00, Complete Pretreatment Processing and Vitrification of High-Level Waste and LAW Tank Wastes, Due: December 31, 2047, Status: On schedule.

Significant Past Accomplishments: None

Significant Planned Actions in the Next Six Months: None.

Issues:

On January 30, 2015, ORP provided Ecology Change Control Form M-62-14-02, which proposed adding language under TPA Milestone M-062-45 to defer negotiations required under M-062-45. Ecology did not respond with the 14-day review period that ended February 13, 2015, which is deemed disapproval in accordance with the TPA. In letter 15-TF-0014, "Initiation of Dispute Resolution Regarding Disapproval of Hanford Federal Facility Agreement and Consent Order Change Control Form M-62-14-02," dated February 20, 2015, ORP initiated a dispute resolution. Ecology provided a justification for their disapproval on March 12, 2015, via letter 15-NWP-036, "Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Package, Change Number M-62-14-02, dated 01/30/2015." Ecology and ORP signed an extension of the dispute resolution period at the TPA project manager level until August 1, 2016.

242-A Evaporator Status

(previously reported under Milestone M-48, which has been closed out)

The 242-A Evaporator campaign strategy for fiscal year (FY) 2015 through fourth quarter of FY 2016 is depicted in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
FY 2015	EC-01	AP-103 AP-104	AP-107	Completed June 21, 2015. WVR = 381 kgal
FY 2015	EC-02	AZ-102	AP-103	Completed July 21, 2015. WVR = 384 kgal
FY 2015	EC-03	AZ-102	AP-103	Completed September 25, 2015. WVR = 375 kgal
FY 2016	EC-04	AP-104	AP-103	Completed April 15, 2016. WVR = 258 kgal
FY 2016	EC-05	AP-104	AP-104	Completed April 21, 2016. WVR = 46 kgal
FY 2016	EC-06	AY-101	AP-104	Estimated to begin fourth quarter FY 2016.

FY = fiscal year.
kgal = thousand gallons.
WVR = waste volume reduction.

Significant Planned Actions in the Next Six Months:

- Future campaign and outage scheduling
- Electrical preventative maintenance activities in 241-AW and 242-A
- Control room upgrades at 242-A Evaporator
- Replacement of the P-B-2 pump variable frequency drive
- Begin integrity assessment on 242-A Evaporator components after EC-06
- Replace P-B-2 pump and associated pressure relief valves (PSV) after EC-06.

Issues: None.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

The Liquid Effluent Retention Facility (LERF) liquid levels, inventory, and received waste is shown in the table below.

Note: Volumes in this table are estimated. Tanker shipment volumes are estimated by multiplying the number of shipments by the capacity of the tanker being used.

	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
Volume (as of 06/30/2016)	~5.36 Mgal	~5.80 Mgal	~6.90 Mgal
AZ-301 Tanker Shipments	-	-	-
MWBT-31 and 34 Leachate	-	-	~35,000 gal
Perched Water Tanker Shipments	-	-	-
ERDF Leachate Transfers	-	-	-
ERDF Leachate Tanker Shipments	-	-	-
Other (325 Building Totes)	-	-	~660 gal-
242-A Campaigns (EC-04 & 05)	-	-	-

ERDF = Environmental Restoration Disposal Facility.
Gal = gallon.

Mgal = million gallons.
MWBT = mixed waste burial trench

Significant Past Accomplishments:

- Total FY 2016 volume processed (as of 06/30/2016): approximately 1,400,000 gallons
- Restart of waste processing at Effluent Treatment Facility (ETF) began May 19
- Repair of special protective coating (SPC) for those areas requiring secondary containment is complete (i.e., verification berm, LERF catch basins, and load-in station)
- Hanford Dangerous Waste Permit 8C, Operation Unit Group -3, class 1 prime modifications package signed by Ecology on June 1, 2016.

Significant Planned Actions in the Next Six Months:

- Continued waste processing of Basin 43 will continue to achieve an initial 2M gallon reduction
- Maintenance outage will follow before an additional 2M gallon reduction is anticipated by end of FY 2016
- Repair of the concentrated chemical storage tank berm is to be completed in fourth quarter of FY 2016.

Issues: None.

Tank System Update

Significant Planned Actions in FY 2016

Double-Shell Tank (DST) Integrity:

- Enhanced annulus video inspection:
 - 241-SY-102 (complete)

All DST videos are completed and being evaluated by engineering with report preparation in progress
- Ultrasonic testing (UT) inspections (two risers for primary wall/welds, one riser for secondary floor):
 - 241-AN-105 (field work complete, in close-out, and report preparation)
 - 241-AW-103 (scanning underway)
- Continuing bi-weekly inspections of AY-102 waste accumulation site
- Continuing bi-monthly comprehensive inspection of AY-102 annulus
- Issued RPP-7574, *Double-Shell Tank Integrity Project Plan*
- Received Ecology comments on DST independent qualified registered professional engineer (IQRPE) integrity assessment report (RPP-RPT-58441) per WAC 173-303-640(2), “Tank systems” and responses are being developed.

Single-Shell Tanks (SST) Integrity:

- In-tank video inspections:
 - 241-TX-103
 - 241-TX-111
 - 241-TX-113
 - 241-TX-116
 - 241-BY-105
 - 241-U-102
 - 241-U-105
 - 241-U-107 (no free riser, replaced with 241-S-105)
- Intrusion mitigation (M-045-56):
 - Complete 241-T-111; evaporation of 241-T-111 continues, a report will be issued when evaporation is considered complete
 - Work initiated on Tank 241-T-112, a baseline video was completed and an inlet air down comer installed.

Single-Shell Tank Integrity Assurance

M-045-91I, Provide to Ecology an Independent, Qualified, Registered Professional Engineer (IQRPE) certification of single-shell tanks (SST) structural integrity for the remainder of the mission, or for such time as the IQRPE believes he/she can reasonably certify, Due: September 30, 2018, Status: On schedule.

Significant Past Accomplishments: None

Significant Planned Actions in the Next Six Months:

- Continue planning for the SST integrity assessment by an IQRPE (M-045-91I).

Issues: None.

In Tank Characterization and Summary

Accomplishments:

For the period from June 1 through June 30, 2016 the following reports were issued:

- Completed RPP-RPT-58392, *Derivation of Best-Basis Inventory for Tank 241-T-201 as of May 1, 2016*, Rev. 1.
- Completed RPP-RPT-57097, *Derivation of Best-Basis Inventory for Tank 241-T-203 as of May 1, 2016*, Rev. 1.
- Completed RPP-RPT-57089, *Derivation of Best-Basis Inventory for Tank 241-T-204 as of May 1, 2016*, Rev. 1.
- Completed RPP-RPT-59403, *Derivation of Best-Basis Inventory for Tank 241-T-202 as of June 1, 2016*, Rev. 0.
- Completed RPP-RPT-44625, *Derivation of Best-Basis Inventory for Tank 241-AW-105 as of May 1, 2016*, Rev. 4.
- Completed RPP-RPT-44630, *Derivation of Best-Basis Inventory for Tank 241-AY-102 as of April 11, 2016*, Rev. 11.
- Completed RPP-RPT-44049, *Derivation of Best-Basis Inventory for Tank 241-AZ-102 as of April 1, 2016*, Rev. 10.
- Completed RPP-RPT-58186, *Derivation of Best-Basis Inventory for Tank 241-T-101 as of June 1, 2016*, Rev. 1.
- Completed RPP-RPT-57458, *Derivation of Best-Basis Inventory for Tank 241-C-102 as of March 16, 2016*, Rev. 6.
- Completed RPP-RPT-59356, *Derivation of Best-Basis Inventory for BX-102 as of May 1, 2016*, Rev. 0.

- Completed RPP-RPT-59407, *Derivation of Best-Basis Inventory for 241-TY-101 as of June 1, 2016*, Rev. 0.
- Completed RPP-RPT-54017, *Derivation of Best-Basis Inventory for 241-AP-102 as of April 11, 2016*, Rev. 1.
- Completed RPP-RPT-58071, *Derivation of Best-Basis Inventory for 241-C-105 as of May 1, 2016*, Rev. 2.
- Completed RPP-RPT-48639, *Derivation of Best-Basis Inventory for 241-AP-104 as of March 29, 2016*, Rev. 13.
- Completed RPP-CALC-60591, *Tank 241-AZ-102 FY16 Q3 Supernatant Process Knowledge Vector Concentration Calculation*, Rev. 2.
- Completed RPP-CALC-60939, *Tank 241-AP-102 FY16 Q3 Process Knowledge Concentration Vector Calculations*, Rev. 0.
- Completed RPP-CALC-60672, *Tank 241-AP-104 FY16 Q3 Supernatant and Saltcake Process Knowledge Concentration Vectors Calculation*, Rev. 1.
- Completed HNF-SW-DQO-001, *Data Quality Objectives for Tank Farm Waste Compatibility Program*, Rev. 22.
- Completed RPP-RPT-59488, *Data Quality Objectives for Sampling Materials in Tank 241-AY-102 Annulus*, Rev. 0.
- Completed RPP-PLAN-60685, *Sampling and Analysis of 241-AP Stack Chemical Emissions*, Rev. 1.
- Completed RPP-PLAN-60589, *Sampling and Analysis of 241-AY/AZ Combined Ventilation System Stack Chemical Emissions*, Rev. 1.
- Completed RPP-PLAN-60977, *Sampling and Analysis Plan for Waste Materials in Tank 241-AY-102 Annulus*, Rev. 0.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending April 30, 2016*, Rev. 340.
- Completed HNF-EP-0182, *Waste Tank Summary Report for Month Ending May 31, 2016*, Rev. 341.
- Completed RPP-RPT-59355, *242-A Evaporator Campaign EC-03 Post-Run Report*, Rev. 0.
- Completed RPP-RPT-59129, *Tank 241-C-102 Residual Waste Inventory Estimates for Component Closure Risk Assessment*, Rev. 0.
- RPP-RPT-59408, *Baseline Results For 241-AP Stack Chemical Emissions*, Rev. 0
- Completed 241-C-111 closure grab sampling June 23, 2016. One sample was received at the laboratory.
- Completed 241-C-111 closure grab sampling June 28, 2016. Two samples were received at the laboratory.

Planned Action within the Next Six Months:**Tank sampling:**

- Tank 241-AY-102 annulus grab sampling is planned for July 2016.
- Tank 241-AP-107 core sampling is planned to begin August 2016.
- Tank 241-AP-107 grab sampling is planned to begin August 2016.
- Tank 241-AP-104 post-EC-06 sludge grab sampling is planned for December 2016.

Best-Basis Inventory (BBI) updates:

BBI updates for the following tanks were completed in June 2016:

- | | | |
|--------------|-------------|--------------|
| • 241-AP-102 | • BX-102 | • 241-T-202 |
| • 241-AP-104 | • 241-C-102 | • 241-T-203 |
| • 241-AW-105 | • 241-C-105 | • 241-T-204 |
| • 241-AY-102 | • 241-T-101 | • 241-TY-101 |
| • 241-AZ-102 | • 241-T-201 | |

BBI updates for the following tanks currently are planned to be completed in July 2016:

- | | |
|-------------|-------------|
| • 241-B-201 | • 241-T-105 |
| • 241-T-102 | • 241-U-201 |
| • 241-T-104 | • 241-U-202 |

Data Quality Objectives (DQO):

- RPP-8532, *Double-Shell Tanks Chemistry Control Data Quality Objectives*, Rev. 15, is in-process to identify additional analyses for corrosion mitigation and to simplify quality control parameters is planned to be released in July 2016.

Issues: None.

Tank Operations Contract Overview

Project Performance:

The earned value performance reporting reflects the format, work breakdown structure reporting levels, and variance thresholds as agreed to with the Tank Operations Contractor (TOC) for monthly performance reporting. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

May-16										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	49,955	48,483	51,355	(1,471)	(2,872)	0.97	0.94			
FYTD	370,200	361,012	358,889	(9,188)	2,123	0.98	1.01	586,816		
CTD	3,221,336	3,192,265	3,183,567	(29,071)	8,699	0.99	1.00	4,686,873	4,694,589	(7,716)

ACWP = actual cost of work performed.
 BAC = budget at completion.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CM = current month
 CPI = cost performance index.
 CTD = contract to date

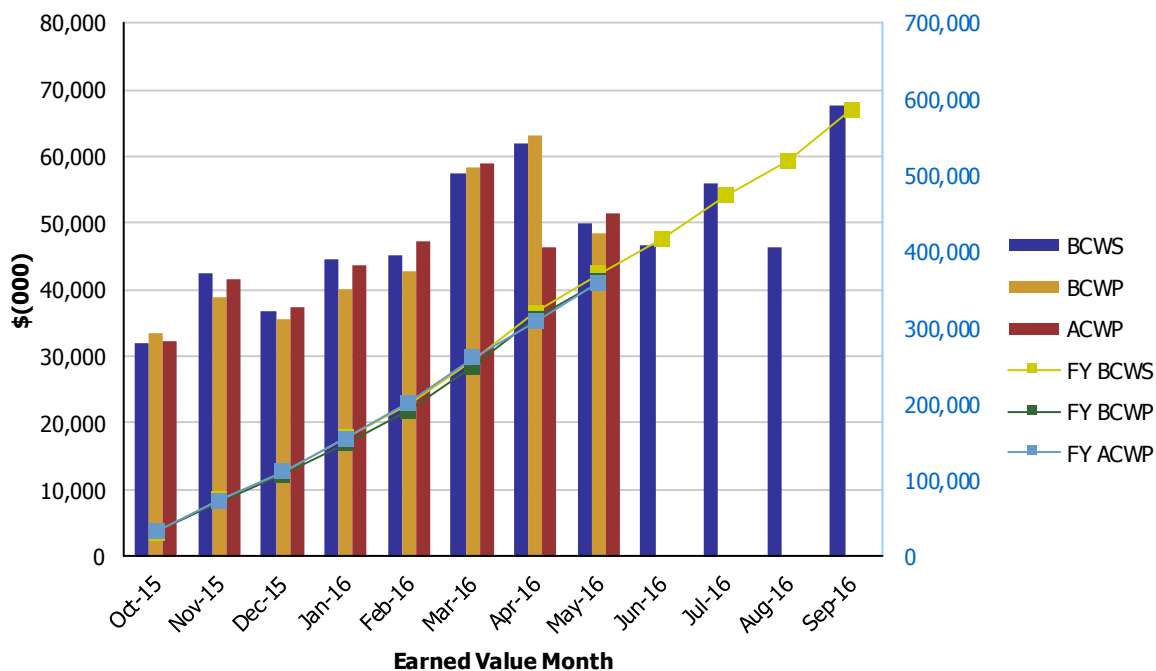
CV = cost variance.
 EAC = estimate at completion.
 FYTD = fiscal year to date
 SPI = schedule performance index.
 SV = schedule variance.
 VAC = variance at completion.

Earned Value Data: Fiscal Year 2016

May-16

Tank Farms ORP-0014

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$31,981	\$33,377	\$32,188	1.04	1.04	\$31,981	\$33,377	\$32,188	1.04	1.04
Nov 2015	\$42,365	\$38,998	\$41,461	0.92	0.94	\$74,345	\$72,376	\$73,649	0.97	0.98
Dec 2015	\$36,744	\$35,614	\$37,416	0.97	0.95	\$111,089	\$107,990	\$111,065	0.97	0.97
Jan 2016	\$44,587	\$40,183	\$43,604	0.90	0.92	\$155,677	\$148,173	\$154,669	0.95	0.96
Feb 2016	\$45,043	\$42,790	\$47,389	0.95	0.90	\$200,720	\$190,963	\$202,058	0.95	0.95
Mar 2016	\$57,499	\$58,407	\$59,030	1.02	0.99	\$258,219	\$249,370	\$261,088	0.97	0.96
Apr 2016	\$62,027	\$63,159	\$46,446	1.02	1.36	\$320,246	\$312,529	\$307,534	0.98	1.02
May 2016	\$49,955	\$48,483	\$51,355	0.97	0.94	\$370,200	\$361,012	\$358,889	0.98	1.01
Jun 2016	\$46,649					\$416,849				
Jul 2016	\$56,087					\$472,936				
Aug 2016	\$46,239					\$519,175				
Sep 2016	\$67,641					\$586,816				

CTD	\$3,221,336	\$3,192,265	\$3,183,567	0.99	1.00
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ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

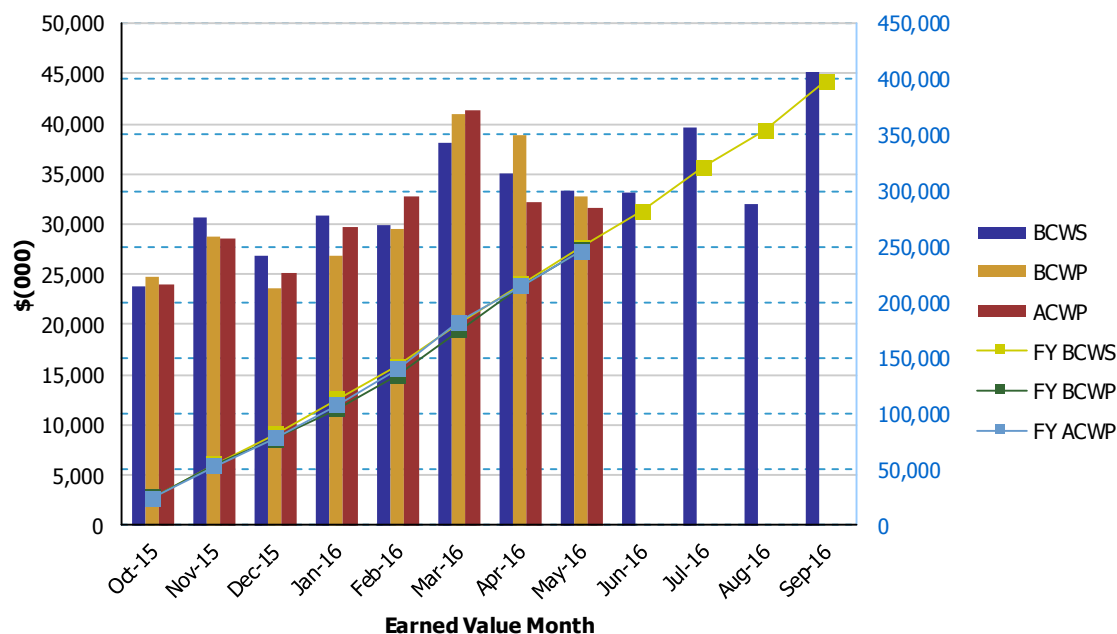
CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Earned Value Data: Fiscal Year 2016

May-16

Tank Farms ORP-0014
Base Operations 5.01

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$23,768	\$24,839	\$24,025	1.05	1.03	\$23,768	\$24,839	\$24,025	1.05	1.03
Nov 2015	\$30,658	\$28,752	\$28,562	0.94	1.01	\$54,426	\$53,592	\$52,587	0.98	1.02
Dec 2015	\$26,911	\$23,637	\$25,173	0.88	0.94	\$81,336	\$77,229	\$77,760	0.95	0.99
Jan 2016	\$30,829	\$26,913	\$29,740	0.87	0.90	\$112,165	\$104,142	\$107,500	0.93	0.97
Feb 2016	\$29,963	\$29,524	\$32,689	0.99	0.90	\$142,128	\$133,666	\$140,189	0.94	0.95
Mar 2016	\$38,167	\$40,891	\$41,434	1.07	0.99	\$180,295	\$174,557	\$181,623	0.97	0.96
Apr 2016	\$34,996	\$38,877	\$32,157	1.11	1.21	\$215,291	\$213,434	\$213,780	0.99	1.00
May 2016	\$33,412	\$32,736	\$31,529	0.98	1.04	\$248,703	\$246,170	\$245,308	0.99	1.00
Jun 2016	\$33,062					\$281,765				
Jul 2016	\$39,663					\$321,428				
Aug 2016	\$32,058					\$353,486				
Sep 2016	\$45,221					\$398,707				
CTD	\$2,140,587	\$2,128,383	\$2,119,137	0.99	1.00					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Base Operations and Tank Farm Projects (5.01)

The current month **unfavorable** schedule variance (SV) of (\$677K) is due to:

- Spare Transfer Pumps - Delay to the delivery of the final Spare Transfer Pump design as a result of design changes for sizing of the internal line shaft requiring additional time for drawing and specification revisions. This action builds spare parts and has no impact to the critical path schedule.
- Safety Significant Flow Instrumentation Upgrade - Delays in receipt of the flow instrumentation and the fabrication of the AP, AN, and AW ducting as well as SY Farm installations due to temperature and differential pressure transmitters were returned to the vendor for re-calibration and also the ongoing change negotiations for pipe spool modifications. This work is in support of the Defense Nuclear Facilities Safety Board Recommendation 2012-2 and has no TPA milestone impact.

The current month **favorable** cost variance (CV) of \$1,207K is due to:

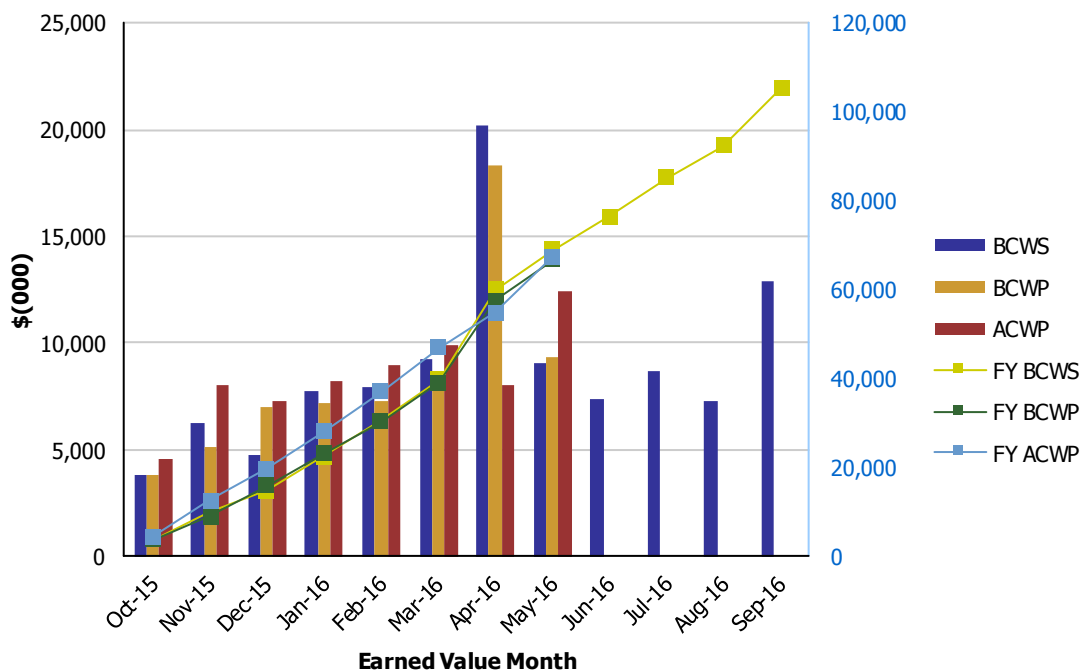
- AY-102 Waste Retrieval Ops (Standard Sluicers) - Less labor/resources has been required to perform standard sluicing, maintenance on the AY-102 standard sluicing retrieval system, and ammonia sampling during standard sluicing campaigns/operations. This action supports the completion of retrieval on AY-102 by March 4, 2017 along with the follow up activities of Phase III implementation of the AY-102 Settlement Agreement

Earned Value Data: Fiscal Year 2016

May-16

Tank Farms ORP-0014
Retrieve and Close SST's 5.02

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$3,770	\$3,814	\$4,560	1.01	0.84	\$3,770	\$3,814	\$4,560	1.01	0.84
Nov 2015	\$6,282	\$5,131	\$8,006	0.82	0.64	\$10,052	\$8,946	\$12,566	0.89	0.71
Dec 2015	\$4,769	\$6,970	\$7,255	1.46	0.96	\$14,821	\$15,915	\$19,821	1.07	0.80
Jan 2016	\$7,702	\$7,214	\$8,233	0.94	0.88	\$22,522	\$23,130	\$28,053	1.03	0.82
Feb 2016	\$7,948	\$7,288	\$8,959	0.92	0.81	\$30,470	\$30,417	\$37,012	1.00	0.82
Mar 2016	\$9,249	\$8,693	\$9,857	0.94	0.88	\$39,719	\$39,111	\$46,869	0.98	0.83
Apr 2016	\$20,237	\$18,288	\$8,046	0.90	2.27	\$59,956	\$57,399	\$54,916	0.96	1.05
May 2016	\$9,013	\$9,299	\$12,417	1.03	0.75	\$68,970	\$66,698	\$67,333	0.97	0.99
Jun 2016	\$7,403					\$76,373				
Jul 2016	\$8,720					\$85,092				
Aug 2016	\$7,264					\$92,356				
Sep 2016	\$12,900					\$105,256				
CTD	\$661,447	\$651,925	\$677,305	0.99	0.96					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Retrieve and Close Single Shell Tanks (5.02)

The current month **favorable** SV of \$286K is due to:

- The positive schedule variance can be attributed to favorable weather conditions allowing construction crews to partially recover previous schedule delays related to duct installation and condensate line installation for the AX ventilation exhausters. A positive variance support completion of projects B-1 and B-3 of the Consent Decree retrieval schedules.

The current month **unfavorable** CV of (\$3,118K) is due to:

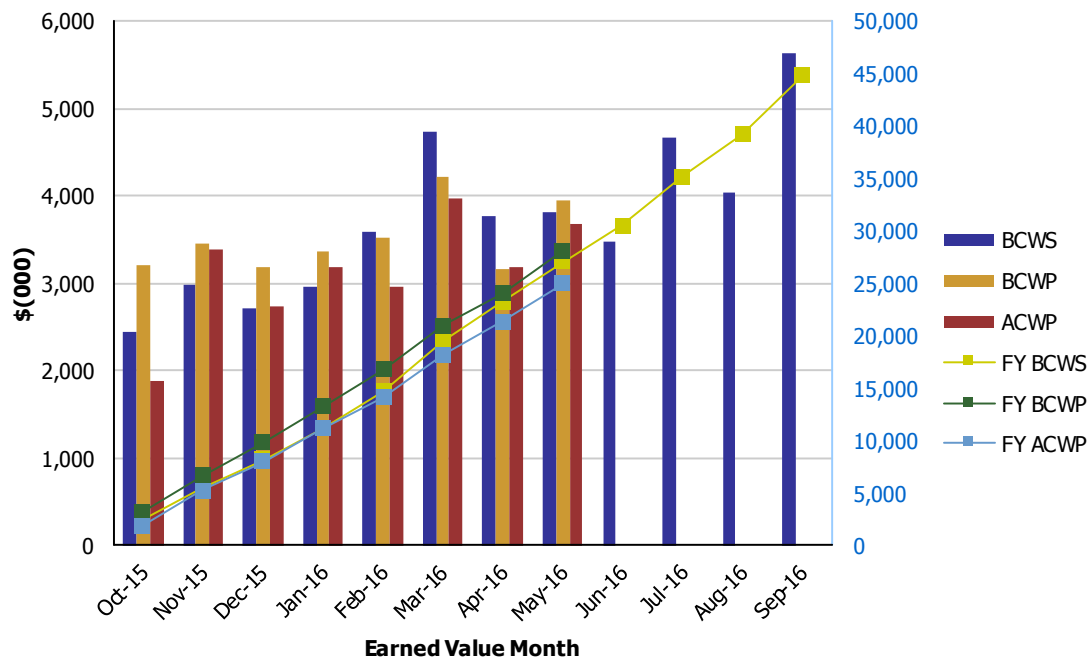
- Additional health physicist technicians (HPT)/industrial hygienist technicians (IHT), support staff, and duration/time have been required to support in-farm field activities due to vapor impact and lower work productivity. This activity increases the cost of activities at C-105 and AX-102/104 to maintain Consent Decree retrieval schedules. No impact to the schedule is foreseen by this cost variance.
- A Farm ventilation design basis/scope/budget was originally based on AP Farm exhauster, as the design matured, more farm-specific requirements have emerged thus requiring additional design/support. This design is supporting procurement of two specific and redundant exhausters at A-Farm to support early legacy equipment removal from tanks that will support Consent Decree Project B-2.

Earned Value Data: Fiscal Year 2016

May-16

Tank Farms ORP-0014
Waste Feed Delivery/Treatment/Double-Shell Tank Retrieval Closure 5.03

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$2,434	\$3,210	\$1,876	1.32	1.71	\$2,434	\$3,210	\$1,876	1.32	1.71
Nov 2015	\$2,987	\$3,446	\$3,379	1.15	1.02	\$5,421	\$6,656	\$5,255	1.23	1.27
Dec 2015	\$2,714	\$3,193	\$2,743	1.18	1.16	\$8,134	\$9,849	\$7,998	1.21	1.23
Jan 2016	\$2,966	\$3,366	\$3,180	1.13	1.06	\$11,101	\$13,215	\$11,178	1.19	1.18
Feb 2016	\$3,583	\$3,518	\$2,966	0.98	1.19	\$14,683	\$16,733	\$14,144	1.14	1.18
Mar 2016	\$4,740	\$4,210	\$3,979	0.89	1.06	\$19,424	\$20,943	\$18,124	1.08	1.16
Apr 2016	\$3,777	\$3,155	\$3,183	0.84	0.99	\$23,200	\$24,098	\$21,307	1.04	1.13
May 2016	\$3,824	\$3,954	\$3,678	1.03	1.08	\$27,025	\$28,052	\$24,984	1.04	1.12
Jun 2016	\$3,467					\$30,492				
Jul 2016	\$4,666					\$35,158				
Aug 2016	\$4,046					\$39,204				
Sep 2016	\$5,632					\$44,836				
CTD	\$355,697	\$354,328	\$330,067	1.00	1.07					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Waste Feed Delivery/Treatment/Double-Shell Tank Retrieval Closure (5.03)

The current month **favorable** SV of \$130K variance is primarily due to:

- Testing of the technetium melter was performed earlier than planned.
- Preparation of the chemical simulant for Effluent Management Facility (EMF) bottoms' testing, which was delayed from April, was completed this month.

The current month **favorable** CV of \$276K variance is primarily due to:

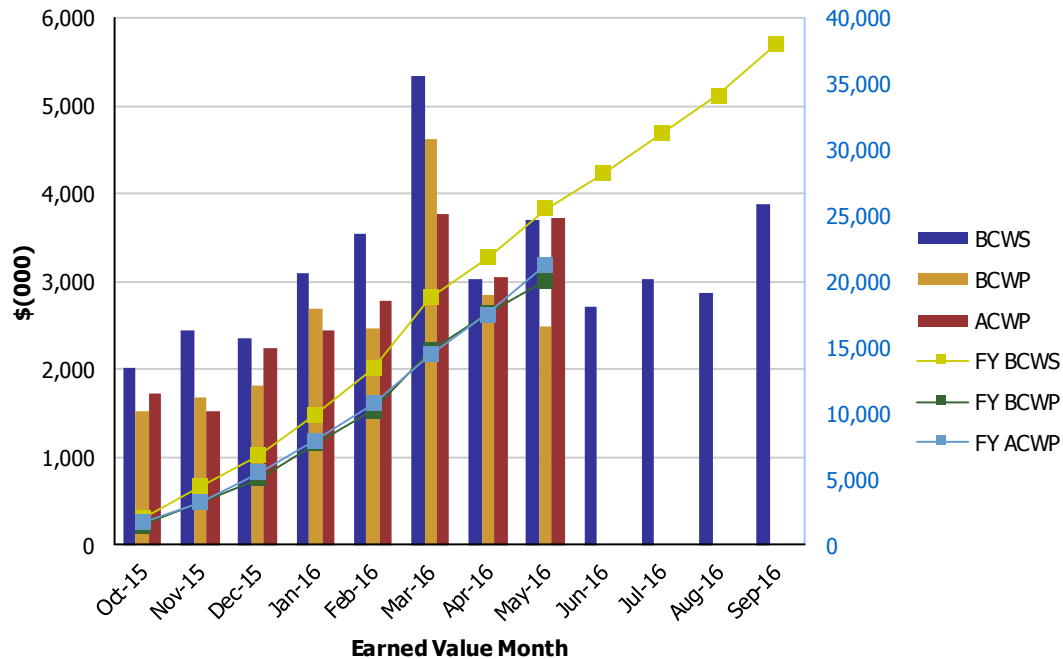
- Vacancies within the One System Program.

Earned Value Data: Fiscal Year 2016

May-16

Tank Farms ORP-0014
Treat Waste 5.5

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2015	\$2,008	\$1,513	\$1,735	0.75	0.87	\$2,008	\$1,513	\$1,735	0.75	0.87
Nov 2015	\$2,439	\$1,669	\$1,517	0.68	1.10	\$4,447	\$3,182	\$3,252	0.72	0.98
Dec 2015	\$2,351	\$1,814	\$2,245	0.77	0.81	\$6,798	\$4,996	\$5,497	0.73	0.91
Jan 2016	\$3,090	\$2,691	\$2,451	0.87	1.10	\$9,888	\$7,687	\$7,948	0.78	0.97
Feb 2016	\$3,550	\$2,460	\$2,775	0.69	0.89	\$13,438	\$10,147	\$10,723	0.76	0.95
Mar 2016	\$5,343	\$4,613	\$3,760	0.86	1.23	\$18,781	\$14,760	\$14,482	0.79	1.02
Apr 2016	\$3,018	\$2,838	\$3,060	0.94	0.93	\$21,799	\$17,598	\$17,542	0.81	1.00
May 2016	\$3,705	\$2,495	\$3,732	0.67	0.67	\$25,503	\$20,092	\$21,274	0.79	0.94
Jun 2016	\$2,716					\$28,219				
Jul 2016	\$3,038					\$31,257				
Aug 2016	\$2,872					\$34,129				
Sep 2016	\$3,888					\$38,017				
CTD	\$43,495	\$37,519	\$37,896	0.86	0.99					

ACWP = actual cost of work performed.
 BCWP = budgeted cost of work performed.
 BCWS = budgeted cost of work scheduled.
 CPI = cost performance index.

CTD = contract to date
 EVMS = Earned Value Management System.
 FY = fiscal year.
 SPI = schedule performance index

Treat Waste (5.5)

The current month **unfavorable** SV of (\$1,210K) is due to:

- Multiple activities, primarily relating to the safety control decision to move from a passive ventilation system to an active ventilation system, are behind schedule because they have been impacted by the safety control decision changes. These activities were progressed as far as possible without the control decision changes being available, then were put on hold to be replanned in June.

The current month **unfavorable** CV of (\$1,237K) is due to:

- There were higher than anticipated costs of equipment, additional equipment procured to support the test program, and the associated fabrication/installation labor that was not anticipated during the proposal effort in the Tech Maturation and Integrated Scale Test Program.

Single-Shell Tank Closure Program

M-045-00, Complete closure of all SST farms, Due: January 31, 2043, Status: At Risk. To be informed by information in System Plan, Revision 8.

M-045-56L, Complete Implementation of Agreed to Interim Measures, Due: July 28, 2016, Status: On Schedule. An annual meeting is held between ORP and Ecology to discuss the prior FY accomplishments and the next FY proposed interim measures. The last annual meeting was held July 15, 2015, and these meeting minutes were placed in the Administrative Record in this location: <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0080444H>

Annual Meeting is scheduled for July 20, 2016.

M-045-59, Control surface water infiltration pathways as needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST Waste Management Areas (WMA) (pending the Corrective Measures Study report, Milestone M-45-58, and implementation of other interim corrective measures), Due: To be determined, Status: To be determined.

M-045-61A, Submit to Ecology for review and approval as an Agreement primary document, document review process, a Phase 2 Corrective Measures Study, and Revision 0 update to the RFI Report for WMA-C), Due: December 31, 2016, Status: On Schedule.

M-045-62, Submit to Ecology for review and approval as an agreement primary document a Phase 2 Corrective Measures Study Implementation Plan for WMA-C, Due: Six months after the approval of the corrective measures study submitted under milestone M-045-61A. Status: On schedule. TPA change control form M-045-15-02 approved on April 14, 2015.

M-045-82, Submit complete permit mod requests for Tiers 1, 2, and 3 of the SST, Due: September 30, 2015, Status: In dispute.

M-045-83, Complete the closure of WMA-C, Due: June 30, 2019, Status: To be missed.

M-045-84, Complete negotiations of TPA interim milestones for closure of second WMA, Due: January 31, 2017, Status: At risk.

M-045-85, Complete negotiations of TPA interim milestones for closure of remaining WMAs, Due: January 31, 2022, Status: On schedule.

M-045-92 (N, O, P, Q, R) Complete Installation of Four (4) Additional Interim Barriers, Due: October 31, 2020, Status: On Schedule.

Significant Past Accomplishments:

- Completed the T and TY Farms Interim Surface Barrier Monitoring Report for FY 2015.

Significant Planned Activities in the Next Six Months:

- Continue data collection for T Farm and TY Farm interim surface barrier monitoring and develop the annual interim barrier monitoring report for FY 2016.
- Complete TPA/*Resource Conservation and Recovery Act* (RCRA) Tier 2 and Tier 3 closure plans after input from Ecology and potentially revise Tier 1 submittal.
- Finalize/Issue Integrated Disposal Facility performance assessment (PA) summary analysis
- Complete the draft WMA-C Appendix I PA and submit to the WMA-C participants for review.

Issues: None

Single-Shell Tank Retrieval Program

M-045-70, Complete waste retrieval from all remaining SSTs, Due: December 31, 2040, Status: At Risk. To be informed by information in System Plan, Revision 8.

M-045-86, Submit retrieval data report (RDR) to Ecology for 19 tanks retrieved, Due: To be determined (12 months after retrieval certification), Status: On schedule.

Significant Past Accomplishments:

- Completed post-retrieval sampling of Tank 241-C-111
- Completed removal of ancillary equipment from Tank 241-C-105 pits A and C in preparation for modified sluicing system installation
- Performed the investigation survey request (ISR) to support the containment box, rotary union, and hoses removal for C-105
- Removed hose-in-hose transfer lines (HIHTL) between the portable instrument valve box and containment box for C-105
- Installed A/AX bathroom/change trailers and Access Control Entry System (ACES) stations
- Received and inspected the sump pump assembly and discharge for AX-102 and AX-104
- Completed duct work installation from POR126 to AX Tanks (with exception of tie-in)
- Shipped AX-102 and AX-104 cover blocks to Environmental Restoration Disposal Facility (ERDF) for disposal
- Completed pit cleanout of Tank 241-AX-102, 02A pit
- Completed removal of Building AX-80
- Completed removal of above grade portion of Building AX-2707.

Significant Planned Activities in the Next Six Months:

- Submit RDR for Tank 241-C-102
- Negotiate contract proposal for installing and performing the third retrieval technology at Tank C-105
- Complete Tank C-105 Mobile Arm Retrieval System-Vacuum (MARS-V) containment box disassembly
- Complete Tank C-105 modified sluicing system design
- Receive Tank C-105 extended reach sluicers
- Install extended reach sluicers in Tank C-105
- Issue Tank C-111 retrieval completion certification
- Complete procurement of the water services building to support A/AX

- Complete AX ventilation installation and commence testing at portable exhaustor POR-126
- Complete cleanout of Tank 241-AX-104 pits 04A, and 04D, and initiate debris removal from 04C
- Complete cleanout of Tank 241-AX-102 pits 02D, and 02B, and initiate debris removal from 02C
- Complete AX-2707 fencing and gate upgrades
- Complete A/AX infrastructure (water and utilities) design
- Complete Tank 241-AX-102 and 241-AX-104 extended reach sluicing system (ERSS) procurement
- Complete A Farm ventilation design.

Issues: None.

Tank Waste Retrieval Work Plan Status

Tank	TWRWP	Expected Revisions	First Retrieval Technology	Second Technology	Third Technology
AX-101	RPP-RPT-58932, Draft	Initial Approval	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-102	RPP-RPT-58933, Draft	Initial Approval	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-103	RPP-RPT-58934, Draft	Initial Approval	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
AX-104	RPP-RPT-58935, Draft	Initial Approval	Sluicing with ERSS	High-Pressure Water deployed with ERSS	-
C-101	RPP-22520, Rev. 8	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	-
C-102	RPP-22393, Rev. 7	Complete	Modified Sluicing with ERSS	High-Pressure Water deployed with the ERSS	-
C-104	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0018	-
C-105	RPP-22520, Rev. 8	Third Technology	MARS-V	MARS-V-High Pressure Water Spray	TBD
C-107	RPP-22393, Rev. 7	Complete	MARS-S	MARS-S -High Pressure Water Spray	Water Dissolution
C-108	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0025	-
C-109	RPP-21895, Rev. 5	Complete	Modified Sluicing	Chemical Retrieval Process complete per 13-TF-0037	-
C-110	RPP-33116, Rev. 3	Complete	Modified Sluicing	Mechanical Waste Conditioning with an In-Tank Vehicle	High Pressure Water
C-111	RPP-37739, Rev. 2	Complete	Modified Sluicing	High pressure water using the ERSS	Chemical Dissolution Process with ERSS
C-112	RPP-22393, Rev. 7	Complete	Modified Sluicing	Chemical Retrieval Process	-

ERSS = extended reach sluicing system.
MARS = Mobile Arm Retrieval System.
S = sluicing.

TBD = to be determined.
TWRWP = Tank Waste Retrieval Work Plan.
V = vacuum.

Significant Accomplishments: None.

Significant Planned Activities in the Next Six Months:

- Finalize AX Farm tank waste retrieval work plans
- Modify RPP-22520, *241-C-101, and 241-C-105, Tanks Waste Retrieval Work Plan* (C-105 TWRWP) to include a third technology for C-105 retrieval — Draft TWRWP modification submitted to Ecology for review in April 2016.

Issues: None.